UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,102	01/23/2001	Linda Lee Grimaldi	NEO-0002	9644

7590 06/15/2004	**EXAMINER**
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ART UNIT	PAPER NUMBER
2178	

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Colorado Springs, CO   80903

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/768,102	GRIMALDI ET AL.
	Examiner	Art Unit
	Jonathan D. Schlaifer	2178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 January 2001</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-31</u> is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-31</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>23 January 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>5/6/2002</u>.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to application 09/768,102 filed on 1/23/2001, with prior art filed

   on 5/6/2002.

2. Claims 1-24 are pending in the case. Claims 1, 16, and 24 are independent claims.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and

should include that which is new in the art to which the invention pertains. If the patent

is of a basic nature, the entire technical disclosure may be new in the art, and the abstract

should be directed to the entire disclosure. If the patent is in the nature of an

improvement in an old apparatus, process, product, or composition, the abstract should

include the technical disclosure of the improvement. In certain patents, particularly those

for compounds and compositions, wherein the process for making and/or the use thereof

are not obvious, the abstract should set forth a process for making and/or use thereof. If

the new technical disclosure involves modifications or alternatives, the abstract should

mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the

invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

(1) if a machine or apparatus, its organization and operation;

(2) if an article, its method of making;

(3) if a chemical compound, its identity and use;

(4) if a mixture, its ingredients;

(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Objections

4. Claim 23 objected to because of the following informalities: in line 9 of the claim,

"structure" should be "structured". Appropriate correction is required.

5. There are two claims numbered 30. The second of these is hereby renumbered Claim 31.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1 and 24 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 24 indicate that the entire document is to be transformed so that it is flattened onto a single line, while the specification indicates that the flattened document is stored on

several lines. It would not be clear from the specification how to flatten the document

onto a single line, as claimed, and hence the invention is not properly enabled.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 and 24 indicate that the entire document is to be transformed so that it is

flattened onto a single line, while the specification indicates that the flattened document

is stored on several lines. This creates an indefinite situation, which should be resolved

by amendment.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-31 rejected under 35 U.S.C. 101 because the claimed inventions are directed to

non-statutory subject matter. All of these claims are directed to inventions that could be

performed solely by human means, without technological intervention. Furthermore,

even if the methods were performed on a computer, they solely manipulate data without

any observable result or interaction with the user.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 1, 4-5, 13, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Nehab et al. (USPN 6,029,182—filing date 10/4/1996), hereinafter Nehab.**

10. **Regarding independent claim 1,** Nehab discloses a method of storing a structured data document, comprising the steps of: flattening the structured data document to provide plurality of tags, a data entry and a plurality of format characters in a single line; (flattening a hypermedia document into a linear document is described in col. 2., lines 55-65 of Nehab; this inherently must include these components) and b) storing the plurality of tags, the data entry and the plurality of format characters (since the linear document is formatted into a formatted document, it must be stored first).

11. **Regarding dependent claim 4,** Nehab discloses the steps of: a1) receiving the structured data document; a2) determining a first data entry; a3) placing in a first line a first plurality of open tags proceeding the first data entry and the first data entry; a4) determining a next data entry; and a5) placing a next plurality of open tags proceeding the next data entry in a next line. These steps are all inherent to the process of flattening a hypermedia document into a linear document, which is described in col. 2., lines 55-65 of Nehab, and hence the claim may be rejected.

12. **Regarding dependent claim 5,** Nehab discloses the step of a6) repeating steps (a4) and (a5) until a next data entry entry is not found. This step is inherent to the process of flattening a hypermedia document into a linear document, which is described in col. 2., lines 55-65 of Nehab, and hence the claim may be rejected.

13. **Regarding dependent claim 13,** Nehab discloses flattening hypermedia documents and XML documents are a type of hypermedia documents, so this inherently encompasses the step of receiving an extensible markup language document.

14. **Regarding independent claim 16,** Nehab discloses a method of flattening a structured data document (see col. 2, lines 55-65, the document is flattened into a linear document), comprising the steps of: a) receiving the structured data document (this is inherent to flattening the document); b) determining a first data entry(this is inherent to flattening the document); and c) storing in a first line a first plurality of open tags and storing the first data entry(this is inherent to flattening the document).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. **Claims 2-3 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nehab further in view of Voigt et al. (USPN 5,537,534—filing date 2/10/1995), hereinafter Voigt.**

16. **Regarding dependent claim 2,** Nehab fails to disclose the steps of b1) storing the plurality of tags in a tag and data store; b2) storing the plurality of format characters in a map store. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to store the tags in an tag and data store because it was notoriously well known in the art at the time of the invention that tags were typically stored in a tag

and data store because that is the type of store that is adapted to them. Furthermore,

Voigt discloses, in col. 4, lines 25-35 that it is advantageous to store data in a map store

because it provides for persistent storage of virtual mapping information, so, it would

have been obvious to one of ordinary skill in the art at the time of the invention to have

used a map store to store the format characters because would have provided for

persistent storage of virtual mapping information.

17. **Regarding dependent claim 3,** Nehab fails to explicitly disclose the steps of b3) storing

the data entry in the tag and data store; b4) storing a first pointer in the map store that

points to the plurality of tags in the tag and data store; b5) storing a second pointer in the

map store that points to the data entry in the tag and data store. However, it would have

been obvious to one of ordinary skill in the art at the time of the invention to store the

data entry in the tag and data store because it was notoriously well known in the art at the

time of the invention that a data store is adapted to store data entries. Furthermore, it

would have been obvious to one of ordinary skill in the art at the time of the invention to

store pointers in the map store to the tags and data store and to the data entry in the data

store because it was notoriously well known in the art at the time of the invention that

map stores are used to interconnect organizational elements of a data processing system

to facilitate access.

18. **Regarding independent claim 24,** Nehab discloses a method of storing a structured data

document (in col. 2., lines 55-65 of Nehab, Nehab discloses flattening a document to

store it); a) flattening the structured data document to contain in a single line a tag, a data

entry and a formatting charcter (in col. 2., lines 55-65 of Nehab, Nehab discloses

flattening a document to store it). Nehab fails to disclose b) storing the formatting

character in a map store and c) storing the tag and data entry in a tag and data store

However, Voigt discloses, in col. 4, lines 25-35 that it is advantageous to store data in a

map store because it provides for persistent storage of virtual mapping information, so, it

would have been obvious to one of ordinary skill in the art at the time of the invention to

have used a map store to store the formatting character because would have provided for

persistent storage of virtual mapping information. Furthermore, it would have been

obvious to one of ordinary skill in the art at the time of the invention to store the tags and

data entry in an tag and data store because it was notoriously well known in the art at the

time of the invention that tags and data entry were typically stored in a tag and data store

because that is the type of store that is adapted to them.

19. **Regarding dependent claim 25,** it involves limitations from Claim 3 applied to Claim
    24 and is rejected under similar rationale.

20. **Regarding dependent claim 26,** Nehab fails to disclose creating a cell in the map store
    for each of a plurality of lines in a flattened document. However, Voigt discloses, in col.
    4, lines 25-35 that it is advantageous to store data in a map store because it provides for
    persistent storage of virtual mapping information, so, it would have been obvious to one
    of ordinary skill in the art at the time of the invention to have used a map store to store
    lines from the document in a map store because it would have provided for persistent
    storage of virtual mapping information.

21. **Claim 6-12, 14-15, and 17-23 are rejected under 35 U.S.C. 103(a) as being
    unpatentable over Nehab.**

22. **Regarding dependent claim 6,** Nehab fails to explicitly disclose I) placing a format

character in the first line. However, it was notoriously well known in the art at the time

of the invention that using a format character would be necessary to preserve the structure

of a flattened document, so it would have been obvious to one of ordinary skill in the art

at the time of the invention to have used a format character to preserve the structure of a

flattened document.

23. **Regarding dependent claim 7,** Nehab fails to explicitly disclose I) placing in the first

line, a number that indicates a level of a first tag that was opened. However, it was

notoriously well known in the art at the time of the invention that recording tag level

would be necessary to preserve the structure of a flattened document, so it would have

been obvious to one of ordinary skill in the art at the time of the invention to have

recorded tag level to preserve the structure of a flattened document.

24. **Regarding dependent claim 8,** Nehab fails to explicitly disclose I) placing in the first

line, a number that indicates a number of tags that are consecutively closed after the first

data entry. However, it was notoriously well known in the art at the time of the invention

that recording tag closings would be necessary to preserve the structure of a flattened

document, so it would have been obvious to one of ordinary skill in the art at the time of

the invention to have recorded tag closings to preserve the structure of a flattened

document.

25. **Regarding dependent claim 9,** Nehab fails to explicitly disclose I) placing in a first line,

a number that indicates a line number of a parent of a lowest level tag. However, it was

notoriously well known in the art at the time of the invention that recording line

placements would be necessary to preserve the structure of a flattened document, so it

would have been obvious to one of ordinary skill in the art at the time of the invention to

have recorded line placements to preserve the structure of a flattened document.

26. **Regarding dependent claim 10,** Nehab fails to explicitly disclose I) placing in the first

line, a number that indicates a level of a first tag that was opened but not closed.

However, it was notoriously well known in the art at the time of the invention that

recording tag levels would be necessary to preserve the structure of a flattened document,

so it would have been obvious to one of ordinary skill in the art at the time of the

invention to have recorded tag levels to preserve the structure of a flattened document.

27. **Regarding dependent claim 11,** Nehab fails to explicitly disclose I) placing in the first

line, a character that indicates a line type. However, it was notoriously well known in the

art at the time of the invention that recording line type would be necessary to preserve the

structure of a flattened document, so it would have been obvious to one of ordinary skill

in the art at the time of the invention to have recorded line type to preserve the structure

of a flattened document.

28. **Regarding dependent claim 12,** Nehab fails to explicitly disclose I) placing in the first

line, a character that provides line control information. However, it was notoriously well

known in the art at the time of the invention that recording line control information would

be necessary to preserve the structure of a flattened document, so it would have been

obvious to one of ordinary skill in the art at the time of the invention to have recorded

line control information to preserve the structure of a flattened document.

29. **Regarding dependent claim 14,** Nehab fails to explicitly disclose I) determining a

format character. However, it was notoriously well known in the art at the time of the

invention that using a format character would be necessary to preserve the structure of a

flattened document, so it would have been obvious to one of ordinary skill in the art at the

time of the invention to have determined a format character to preserve the structure of a

flattened document.

30. **Regarding dependent claim 15,** Nehab fails to teach placing the next data entry in the

next line. However, it was notoriously well known in the art at the time of the invention

that separate data entries were placed on separate lines to differentiate them. It would

have been obvious to one of ordinary skill in the art at the time of the invention to place

entries on separate lines to differentiate them.

31. **Regarding dependent claim 17,** Nehab fails to teach d) determining a level of a first

opened tag; e) storing the level of the first opened tag in the first line. However, it was

notoriously well known in the art at the time of the invention that determining tag levels

and storing them is necessary if the document is to be reconstructed. It would have been

obvious to one of ordinary skill in the art at the time of the invention to have determined

tag levels and stored them so the document could be reconstructed.

32. **Regarding dependent claim 18,** Nehab fails to teach d) determining a number of

consecutive tags closed after the first data entry; e) storing the number in the first line.

However, it was notoriously well known in the art at the time of the invention that

determining tag closings and storing them is necessary if the document is to be

reconstructed. It would have been obvious to one of ordinary skill in the art at the time of

the invention to have determined tag closings and stored them so the document could be

reconstructed.

33. **Regarding dependent claim 19,** Nehab fails to teach d) storing a line number.

However, it was notoriously well known in the art at the time of the invention that storing

a line number is necessary if the document is to be reconstructed. It would have been

obvious to one of ordinary skill in the art at the time of the invention to have stored line

numbers so the document could be reconstructed.

34. **Regarding dependent claim 20,** Nehab fails to explicity teach the steps of: d)

determining a next data entry; e) storing a next plurality of open tags proceeding the next

data entry in a next line; f) repeating steps (d) and (e) until a next data entry is not found.

However, it was notoriously well known in the art at the time of the invention that

repeatedly extracting data entries would be necessary to flattening the document, and

would hence be an obvious approach to implementing Nehab's invention with the

advantage of compactly representing the document. It would have been obvious to one

of ordinary skill in the art at the time of the invention to have repeatedly extracted data

entries in order to compactly represent the document.

35. **Regarding dependent claim 21,** Nehab fails to explicitly disclose determining that the

first data entry is a null. However, it was notoriously well known in the art at the time of

the invention that a program would need to detect entries that are null in order to properly

handle null input. It would have been obvious to one of ordinary skill in the art at the

time of the invention to detect entries that are null in order to properly handle null input.

36. **Regarding dependent claim 22,** Nehab fails to explicitly disclose e1) storing a plurality

   of format characters associated with the next data entry. However, it was notoriously

   well known in the art at the time of the invention that using format characters would be

   necessary to preserve the structure of a flattened document, so it would have been

   obvious to one of ordinary skill in the art at the time of the invention to have determined

   a format character to preserve the structure of a flattened document.

37. **Regarding dependent claim 23,** Nehab fails to explicitly disclose g) expanding a

   flattened data document into the structured data document using a plurality of formatting

   characters. However, it was notoriously well known in the art at the time of the invention

   that appropriately constructed transformations can be inverted, and it would have been

   obvious to one of ordinary skill in the art at the time of the invention to have inverted the

   flattening transformation and expanded a flattened document to recover the original.

38. **Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nehab**

   further in view of Voigt, further in view of Yard et al. (USPN 5,896,393—filing date

   5/23/1996), hereinafter Yard.

39. **Regarding dependent claim 27,** Nehab and Voigt fail to disclose f) receiving a request

   to delete one of a plurality of data entries; g) determining the cell associated with the one

   of the plurality of data entries; h) setting a delete flag. However, Yard discloses in lines

   1-20 of the Abstract the use of a Active/Delete flag to manage the deletion of files easily,

   which is analogous art. It would have been obvious to one of ordinary skill in the art at

   the time of the invention to use a delete flag in Nehab and Voigt's invention in the

manner of Yard's invention in order to facilitate the management of cell deletion in an organized and efficient manner.

40. **Regarding dependent claim 28,** Nehab and Voigt fail to disclose i) receiving a restore command; j) unsetting the delete flag. However, Yard discloses in lines 1-20 of the Abstract the use of a Active/Delete flag to manage the restoration of files easily, which is analogous art. It would have been obvious to one of ordinary skill in the art at the time of the invention to unset the delete flag in Nehab and Voigt's invention in the manner of Yard's invention in order to facilitate the management of cell restoration an organized and efficient manner.

41. **Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nehab further in view of Voigt, further in view of Nitta et al. (USPN 5,287,521—filing date 6/12/1990), hereinafter Nitta.**

42. **Regarding dependent claim 29,** Nehab, Voigt, and Yard fail to disclose f) receiving a request to delete one of a plurality of data entries and a plurality of related tags; g) setting a delete flag equal to the number of the plurality of related tags plus one. However, Nitta uses a deletion counter in col. 6, lines 27-44 to effectively manage deletion of multiple objects by organizing deletion flow. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a deletion counter in the manner of Nitta to effectively manage the deletion of multiple objects by organizing deletion flow.

43. **Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nehab further in view of Voigt, further in view of Leichty et al., (USPN 6,041,060—filing date 4/30/1997), hereinafter Leichty**

44. **Regarding dependent claim 30,** Nehab and Voigt fail to disclose the steps of: d)
receiving a request to insert a new entry; e) finding a previous cell containing a
proceeding data entry; f) storing the new entry at an end of the map store; g) moving a
contents of a next cell after the new entrys' h) storing an insert flag and a pointer to the
new entry in the next cell. However, Leichty discloses in col. 3, lines 59-67 and col. 4,
lines 1-15 a system by which pointers are used to insert entries into a data system in a
mapping arrangement. It would have been obvious to one of ordinary skill in the art at
the time of the invention to use Leichty's pointer insertion system in Nehab and Voigt's
inventions because it would allow the user to have the capacity to extend a data file.

45. **Regarding dependent claim 31,** Nehab and Voigt fail to disclose the step of: i) storing a
second insert flag and a second pointer after the contents of the next cell. However,
Leichty discloses the use of chains of pointer in col. 3, lines 59-67 and col. 4, lines 1-15.
It would have been obvious to one of ordinary skill in the art at the time of the invention
to use Leichty's chained pointers in Nehab and Voigt's inventions because it would allow
the user to have the capacity to have quicker insertion, as Leichty points out on col. 4,
line 12.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's
disclosure.

USPN 6,584,459 B1 (filing date 6/2/1999)—Chang et al.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Jonathan D. Schlaifer whose telephone number is 703-305-9777.
The examiner can normally be reached on 8:30-5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Heather Herndon can be reached on 703-308-5186. The fax phone number for the
organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
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JS

STEPHEN S. HONG
PRIMARY EXAMINER